WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED BY
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EDITOR AND PROPRIETOR,
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

Vol. XXI. May 13, 1885. No. 19.

APICULTURAL NEWS ITEMS.

EDITORIAL AND SELECTED.

It is so cold now that we could well imagine that it was January instead of May. Here the trees are yet without leaves.

The bitterest herb in the woods is called "failure." The bitterest experience for a bee-keeper is "failure."

The Reversible-Frame Craze is about over—at least we hope so. Is it not a very doubtful expedient, any way?

If a person is born with a mean, stingy or dishonorable disposition, do not waste any time in endeavors of reform. It is useless.

Bees and Queens are now in large demand. Those who are fortunate enough to have bees for sale will do a "land-office business" this year.

Economy is a virtue, but it is not true economy to cut off the small expense of taking a bee-paper, or buying a bee-book. These are NECESSARIES to all engaged in apiarian pursuits.

The weather for May has been very cold, and Prof. Mansill predicts that during May the temperature will likely average below the mean of the season, both in the United States and Europe. The worst storms will occur about the 3d and 4th, 10th to the 15th, the 23rd, 24th, 28th, 30th and 31st.

The losses of Bees during the past winter will make it necessary to increase the numbers as fast as possible, so as to fill the empty hives. Feeding will be "the order of the day." Care should be taken not to overdo the matter—feed just enough for the use of the bees and brood each day, and no more; else the result may be the opposite of that desired, and breeding will be retarded.

The Auction Sale of the apiary of Dr. L. James, at Atlanta, Ill., on April 21st attracted bidders from a considerable distance. Besides selling 100 colonies of bees, a number of empty hives, honey and bee-keeping utensils were sold. The colonies of bees were sold at prices ranging from $3 to $9 each. Some months ago, as announced in the BEE JOURNAL, Dr. James was prostrated by a stroke of paralysis, and we learn that he still lingers in a helpless condition.

Garrett's New Queen-Cage, intended for both shipping and introducing queens, is on our desk. Mr. Garrett says he has "used it to introduce 100 queens," and has not lost any of them. By it, the queen can be caged, and introduced without handling, and is the best thing we have seen for the purpose. It is something like the Peet cage, but has several new features, and is smaller than it. We have no doubt of the correctness of Mr. Garrett's assertion, that "any one can introduce a queen successfully with this cage."

Queenless Colonies.—Mr. F. L. Dougherty says that in a money point of view, it is hardly worth while to bother with queenless colonies at this season of the year. A better plan is to give the bees to a weaker colony which has a queen. Crowd the bees on one or two frames. Late in the evening, after the bees have quit flying, hang the frames in the hive by the side of those containing the queen, and they will unite very readily. It will help matters to set a short board up in front of the hive to make the bees take a new location on leaving the hive. The old hive from which they were taken should be entirely removed from the old stand, so as to destroy the old land-marks. Without the latter precaution, the bees soon forget the new markings in the presence of the old location.

The Transmission of Foul Brood is discussed by Mr. W. H. Stewart, on page 297. Without doubt, scrupulous care should be taken not to spread the disease, but the recommendations of Mr. Stewart are so sweeping and surprising that they almost take one's breath. The rearing, sale and shipping of queens, which is now carried on so largely as an industry, would be entirely destroyed were Mr. Stewart's plan to be generally adopted.

Would it not be as consistent to require the suspension of all business in the United States of America, because, forsooth, the cholera is expected here this summer (aye, it is reported to be already here in some isolated cases), and the circulating medium—money, with which business is transacted, consisting of gold, silver, nickel, copper (and worst of all) paper—is charged with spreading contagious diseases?

Many of the thousands of filthy "greenbacks" now circulating over the country have been in the possession of diseased persons, and, of course, when they pass into the hands and pockets of those in good health, they endanger the lives of all into whose hands they pass. Still we must live—we must do business—we must have and use money. In other words, we are COMPELLED TO TAKE THE RISK DAILY, and yet, but few, comparatively, ever catch the contagion.

The efforts put forth in order to obtain permission to transmit bees in the mails, and the difficulties encountered were so numerous and almost insurmountable, that we should be very slow to give any countenance to rash advice about the enactment of a law to exclude them from the mails.

While we would recommend caution and careful inspection of apiaries to discover the least taint of foul brood (so called), and the strict environment of all infected districts—we must be AS CAREFUL not to destroy the apicultural business of the country, and thus bring disaster to the multitudes who gain a subsistence thereby.

E. W. Turner, Secretary of the Mahoning Valley Bee-Keepers' Association, writes us that the next meeting of that association has been postponed until June 5, 1885.

Business, to a very great extent, depends mainly upon the success which attends the farmer. The prosperity or adversity of the "tillers of the soil" largely control the whole business of the country. Just so is it with bee-keeping. Upon the success or failure of the apiarist depends the prosperity or adversity of the queen-breeder, the importer, the supply dealer, and the publisher. "Pulsations" in the apiary are felt keenly in all these lines of business. Promptness in paying small debts will assist all around. Every one should, therefore, studiously avoid carelessness and procrastination in liquidating the smaller claims. By so doing we may all "help one another." Keep the dollar busily "rolling around the circle," and it will surely return to cheer and assist even the one who first sets it rolling.

Honey Oozing from Cells.—Prof. A. J. Cook writes thus on this subject: "I am surprised at Mr. Doolittle's statement, on page 260, that honey can only ooze from capped cells, on account of large bulk, and only swells from dampness. What about fermentation? Honey in the comb, or when extracted, is almost sure to ferment in a cool, damp atmosphere. I have noticed this often in comb honey; and, Mr. Editor, how about that barrel that exploded in your office which you showed me in 1878? That was gathering dampness with a vengeance. In fermentation, gases are generated; and, like steam, they push hard." The barrel of honey mentioned by Prof. Cook came from Wisconsin. It was gathered after a wet season and the honey fermented, blew out the bung, and ran all over the floor.

Spring Work.—The "Kansas Bee-Keeper" gives the following as seasonable hints: "What is required, is to endeavor to get every colony in such condition as to strength, that it will have a large and effective force of foragers ready to take advantage of the first honey yield. Every bee-keeper is supposed to know when the first yield of honey will be found, and of course will know how long it will take to strengthen up his colonies with young bees. Stimulative feeding should be used with prudence and judgment, if at all, and only diluted syrup or honey should be used. If the bees are stimulated beyond their strength, the intervention of 2 or 3 cold days and nights may chill the brood thus reared, owing to the colony not being strong enough to cover it. As a rule, it is better for beginners to see that food enough is supplied for the wants of both bees and brood, than attempt to stimulate to any extent, and they should be particularly careful about spreading brood, until they have had sufficient experience to enable them to do so to the best advantage. Old bee-keepers have the experience of past years as a guide; the younger ones have no such experience, and had better go a little slow, than to run any dangerous risks. If they see that their hives are well cleaned out, the bees well supplied with stores, and that very weak colonies are strengthened by the addition of an occasional frame of brood, they will probably succeed better than if they should attempt to force breeding without fully understanding the business."

QUERIES

WITH

REPLIES by Prominent Apiarists.

Prevention of Increase.

Query, No. 61.—What is the best way to keep down increase? I have 33 colonies of Italian bees, which are worked for comb honey, and they produce about as much honey (1,000 lbs.) as my home trade demands, so I do not want to increase my number of colonies?—W. R. Y.

PROF. A. J. COOK says: "The surest way is by extracting closely."

G. W. DEMAREE replies thus: "With as few colonies as you mention, perhaps the best way to prevent increase is to cut out the queen-cells, and return the bees; the plan, however, makes too much work to suit me."

G. M. DOOLITTLE replies as follows: "The only profitable way to keep down increase, is to unite two colonies in early spring, and then let them divide by natural swarming, to the original number; for I believe the swarming-plan will give better results than any non-swarming plan so far devised, where the apiary is worked for comb honey."

MESSRS. DADANT & SON reply: "No drones, a young prolific queen, plenty of ventilation and plenty of room, especially empty combs."

DR. G. L. TINKER remarks: "The best way to prevent increase is to use the extractor; but I have been able to get more comb honey where natural swarming was allowed. If one has too many colonies, they may be doubled up at any time after the honey harvest is over. Bees are best united in the evening, after dusk, using peppermint essence with an atomizer, and caging temporarily the reserved queen."

Moving Bees a Short Distance.

Query, No. 62.—I have 8 colonies of bees in hives packed side by side. How can I move a part of them a short distance, leaving the remainder where they are now? The bees have flown freely.—N. L.

G. M. DOOLITTLE remarks thus: "In this case I should move the strongest colonies, and let the weak ones be strengthened by the returning bees from those moved."

PROF. A. J. COOK replies: "By moving each colony a little—2 or 3 feet, each day—the thing is easily done."

W. Z. HUTCHINSON replies thus: "If some of the colonies are stronger than others, move away the strong ones and allow the returning bees to join the weak ones. If this is not advisable, wait until a storm or cool weather has kept them in a few days, then move them, and set a slanting board in front of each hive. If the distance is very short, the hives can be moved a few inches each day."

G. W. DEMAREE answers: "I move bees whenever and wherever I please. When moving bees under the disadvantages you name, move them in the evening, and keep them closed up till nearly sunset; place some boards before the entrances of the hives, and disguise their old location by spreading sheets over the hives near the old stand. If the hives removed were close to other hives, the sheets should be kept dripping wet. After 1 or 2 days the trouble will be over. If they are to be moved but a short distance, it may be done by moving them a little at a time."

DR. G. L. TINKER remarks thus: "Bees may be moved a short distance, a rod or two, by moving the hive 5 or 6 feet every day; but I find the least disturbance and as little loss from moving the colony at once to the place desired, be it one rod or a hundred; then stand a board up in front of the hive, or disguise it in any way. The bees should be turned to one side, and the entrance made dark. They will then mark the new location—will go at first to the old, but return to the new."

DADANT & SON answer thus: "You will lose some bees anyhow from the moved colonies. The best plan is to place a large block or board leaning against the front of the hive for a few days, after moving. When the bees come out, they at once notice that something is wrong, and they mark the location; otherwise they would start in a 'bee-line,' as usual, and get lost."

Virgin Queens and Drone Eggs.

Query, No. 63.—Does a virgin queen ever lay any but drone eggs? Are the drones from these eggs capable of fertilizing queens?—A. O. C.

W. Z. HUTCHINSON answers thus: "To the first part, no."

PROF. A. J. COOK remarks: "1. No, never. 2. I have no doubt of it; as they produce the active sperm-cells."

DR. G. L. TINKER says: "To both questions I say no."

JAMES HEDDON answers as follows: "1. Entomologists say 'no,' and my practice has so far proved nothing to the contrary. 2. These same scientists say 'yes.'"

G. M. DOOLITTLE replies thus: "1. I answer no. 2. It has not been satisfactorily settled to all minds that such drones are 'as good as any.'"

G. W. DEMAREE replies as follows: "Of the many experiments that I have tried, I have never seen but one case where a virgin queen apparently laid a few worker eggs; but as I could never see the same thing the second time, I concluded that there must be a mistake somewhere. On three occasions I tried to have queens mated by drones from virgin queens, once in February, and twice in March; I had quite a number of these drones, but I got no queens mated till the drones of the mated queens began to fly."

DADANT & SON remark: "1. No. 2. Yes, why not?"

CORRESPONDENCE

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ♂ north of the centre; ♀ south; O+ east; +O west; and this ♂ northeast; ♌O northwest; O♌ southeast; and ♀ southwest of the centre of the State mentioned.

For the American Bee Journal.

Was It Bee-Diarrhea?

C. W. DAYTON, (50—112).

Early last fall I packed 2 colonies of bees with forest leaves to be wintered on the summer stands. One of the colonies occupied 6 and the other 2 combs containing natural stores. The colony on 2 combs was furnished additional clustering-space by raising their combs high above the bottom-board.

On Nov. 17, the mercury was below 38° above zero, and continued there until March 4, 1885, when I examined the colony which occupied 6 combs, and on removing the comb which was the farthest from the cluster and the entrance to the hive, I found it to be wet and moldy, and there was a considerable amount of ice adhering to the hive in the lower part of the brood-chamber. The bees, to all appearances, were as small and had as undistended abdomens as in the fall, and from the few which flew out of the hive on account of the disturbance, I failed to perceive any droppings of excrement. I removed neither of the combs in the other hive, but from below or above I could see no moisture in any form on anything which was in immediate connection with the brood-chamber, and the bees were as small and slim as were those in the other colony.

Five days after this examination, and on the 112th day of their confinement, the bees were allowed a flight. Quite early in the day, and as the mercury neared 44° above zero, the bees in the colony occupying 6 combs began rushing into the open air. At this time the bees that before were so small and sprightly, had increased in size, and were objects possessing great clumsiness. The evacuations were copious, and with but few exceptions they were of a consistency of pure water containing portions of pollen-colored feces that appeared to be entirely unmixed; being as distinguishable from the transparent portion as it would have been had it been stone, and in the order of evacuation the solid matter was first and the water last. In the evening there remained on the alighting-board a large number of bloated bees that were unable to void the feces, and

which died from the effects of water-loaded intestines which were clogged by solid fecal matter. An examination of the brood-chamber found the water and ice, which had been noticed at the time of the first examination, to be gone, and the whole brood-chamber was now bright and clean from the top to the bottom. For 21 days following the time of this flight, the bees were confined closely within the hive, and at the time of their next flight, the few visible droppings would have been unnoticed by all except, perhaps, a very close observer.

It was late in the afternoon when the bees in the other colony began to fly, and they were as small and slim as ever, and the evacuations, when they were visible, were small, of a solid nature, and generally pollen-colored. Examination revealed patches of capped and uncapped brood in two combs in one colony, and in three combs in the other.

The above are the conditions in one case out of a large number, in which instance the disease-producing agents were rather more separated than usual. In a hundred colonies which were afflicted with diarrhea, I have yet to find an instance wherein if the the liquid portion should be evaporated out of the excreta there would remain scarcely enough to half-fill the intestines of a bee; by this I do not mean converted into dry feces, but having dryness equal to that found in healthy excreta. In my experience the thinness of the accumulations and the length of the confinement after the intestines become overloaded, are the correct measures of the severity of the disease. I believe that the exclusion of pollen from the winter stores is not a prevention of diarrhea, but a prevention of the sipping of moisture.

Bradford, ♂ Iowa.

For the American Bee Journal.

Preventing Honey-Granulation.

A. B. WEED.

The following paragraph which I took from a prominent agricultural paper, that had clipped it from the *Scientific American*, shows, in part, how much abuse and misrepresentation the honey trade is required to withstand from so-called scientists, and also from those agricultural publications which should be found among its friends and promoters:

"Having for several years had considerable trouble and loss in keeping pure extracted honey, on account of its tendency, in a short time (particularly in warm weather), to crystallize, I have been ready for any remedy that was feasible. One lot that I purchased in the comb and extracted myself, soon became almost worthless from this cause. Some two months ago I had a small lot that I found crystallized when wanted for use, although I had taken the precaution to cork it tightly and put in a cool place in the cellar. It occurred to me to see what would be the result from melting and adding a small amount of glycerine. Placing the bottle in a water bath, I soon had it melted and added one ounce of glycerine to about 1½ pounds of the honey, setting it aside to cool. It has shown no sign of re-crystallization, as yet, and I am just using the last of it. I can see no objection to this on the score of adulteration, or any harm from its use."

By the learned correspondent throwing out that suggestion, we may soon hear the cry, "Honey is adulterated with glycerine!" Unless he observes greater "precautions" than he did with his honey—keeping it tightly corked in a cool cellar—those who understand the nature of the article spoken of, will discover that the only thing in question which is not adulterated, is his eagerness to recommend methods before testing them, and to overcome difficulties which would not have occurred but for his own mismanagement.

Detroit, ♎ Mich.

Read at the N. Y. and Eastern Convention.

Rendering Conventions Profitable.

A. J. KING.

The published proceedings of our conventions, extending over a score of years, has done much to bring about the present advanced state of the art of profitable bee-keeping in the United States. Twenty-five years ago bee-keepers' associations were "like angel's visits—few and far between," and the number of persons engaged exclusively in honey-production, could be counted on one's fingers; to-day we have a National Association, and hundreds of minor societies scattered all over the country from Maine to California, and from Canada to the Gulf of Mexico. The published deliberations of these numerous associations have not been confined to the bee-papers, but have extended to the agricultural press of the entire country, and to a limited extent to the political and religious papers; and the consequence is that a large proportion of intelligent persons know something of the merits of modern bee-keeping as distinguished from that carried on by our grandfathers with the hollow-log, box-hives and sulphur pits, and are also able to appreciate the difference in the sweet products of these different systems of bee-keeping.

To enumerate all the beneficial results to the bee-keeping industry, which may be traced directly or indirectly to our conventions, would be well nigh impossible, besides being foreign to the design of this essay, which is to point out supposed defects and suggest possible remedies in our present methods of conducting them.

Beginners, especially, are often confused by the opposing statements of professional bee-keepers regarding the same subject, for instance: A strongly recommends early stimulatic feeding, and gives practical results to "back up" his assertions, while B just as strongly condemns it, and proves his position correct by results in his own experience. A advocates wintering bees on summer stands, B denounces it: A recommends breeding late in the fall, while B pities any one foolish enough to follow such advice; A says that the bees know what they are about when laying in a reasonable supply of bread or pollen with their winter stores, but B says that they will die with the diarrhea; A recommends buckwheat as a bountiful source of fall honey, B doubts if it is a honey-plant at all; and so on to the end of the chapter. A and B represent large classes of bee-keepers equally experienced and equally honest, and the subjects of their differences are also representative of all the principal things to be done in order to secure the best results of our modern scientific management.

Where, then, is the reason for this difference of experience and the difference in the advice given? some one will ask. We reply that it consists mainly in the outward circumstances surrounding each individual case. For instance, in the far North, bees must be housed in winter to secure the best results. In this latitude chaff hives are the best, while for the far South, single-walled hives answer every purpose. Stimulative feeding in the cellar is absurd; the same in chaff-hives on the summer stand is highly advantageous, while in the South it is not needed. Buckwheat and many other so-called honey-plants in some localities yield a bountiful supply of honey; in other places they yield next to nothing; so the beginner might be eminently successful in the favored locality, while with the same forage and management he would utterly fail in the other.

Temperature, density and moisture of the atmosphere together with the quality of the soil, are the chief outward surroundings which should be studied and known by every bee-keeper. He should then by experiment find out the habits of the trees, shrubs, plants and grasses classed as honey-flora; with this knowledge he will be able to enter the pursuit of bee-keeping with a fair promise of success. When he arises in convention to give in his experience, all the above information should be given as a kind of preface to his success or failure as the case may be, then the apparent contradictions will be reconciled, and our convention reports will be reliable and helpful. To forward this idea I would suggest the appointing of committees to investigate into the conditions by actual experiment which produce such varying results in our chosen pursuit, say a committee of twelve or more, on honey-plants, each taking about twenty species of our best honey-producers, and being located fifteen or twenty miles apart, north and south, with thermometers, barometers, and hygrometers, note carefully the readings of these instruments, whenever any plant is affording nectar abundantly.

I would also have appointed similar committees to experiment on wintering bees. Putting all methods to the

test, and noting all the outward surroundings of every test; also committees on experimenting with the different races of bees; also on reversible frames to increase the amount of comb honey; and so of everything on which such wide diversities ot opinion now exist. The reports of these various committees would be looked forward to with intense interest, and the conventions would be filled with our most progressive honey-producers, because it would pay them to attend.

Other things being equal, certain methods will always produce the same results, and I believe it is possible by some such means as we have here only hinted at, to determine the surrounding circumstances over which we have now no control, so as to get the very best results out of any locality of which it is capable of producing. We will thus be acting in concert with other associations, rapidly attain results which, acting singly, would require years to produce. Agriculturists long ago established experiment stations in many parts of the country, and the results have been gratifying, and I can see no reason why apiculturists should not follow their example. What is good in one locality may be worthless in another, and methods of management with one class of surroundings may work admirably, while the same methods pursued under different circumstances and other surroundings would produce certain disaster.

Experiments scientifically conducted and regularly reported at our conventions, should be commenced and continued until the races of bees, the honey-flora, and the methods of management in the respective latitudes best adapted to each of them, shall be uniform—because the best. Had I known 18 months ago what I now know, I would never have taken 90 colonies of Italians, and only 10 of Holy-Land bees, to the island of Cuba, for the Holy Lands have more than doubled the Italians both by increase and the amount of surplus honey taken; and I am credibly informed on authority based on years of practical experience with modern methods, that the Holy Lands can be made to produce an average yearly crop of surplus extracted honey of from 350 to 500 pounds per colony. Why this difference between these two races in Cuba and not here? Simply that the great four months' honey-flow of Cuba embraces the months of November, December, January and February, and the Italians, not being fall breeders, cannot be induced to fill their hives with young bees, but instead, the queen gradually lessens her laying until about the middle of November, when she almost entirely ceases, and the bees assume a condition of semi-torpor; while the Holy-Land queen keeps up a vigorous breeding, and her workers keep bringing in the honey (a sufficient supply for breeding purposes is always to be had in Cuba), so that by the commencement of the great harvest, the hive is crowded with the busy workers ready to store it as surplus. I mention my Cuban experience only as a simple instance of what might have been gained had I known the facts in the case as I now know them.

Further, if a whole convention were thus divided up into committees, each person would feel a responsibility resting on him, to discharge the duties imposed, in a creditable manner, and we should at once come into possession of a knowledge of the various departments of our profession based on the facts of careful experiment, and acting on the same, our business would soon cease to be regarded as one of luck or chance. Hitherto our conventions have traveled too much in ruts. Our programmes have been hastily gotten up and filled with the old subjects which have been discussed from year to year in a manner so nearly alike, that many of our most prominent honey-producers have ceased to attend because, as they declare, that aside from visiting and hand-shaking, and the making of some new acquaintances, nothing is gained.

As an illustration, take the subject of foul brood, which has been discussed in most of our conventions for many years, and yet hardly a new idea had been advanced, till within a very few months, Mr. Cheshire, of England has, as the result of long and careful experiment, aided by what he could find out by the experiments of others, probably discovered the true cause and certain cure of this dread malady, and thus conferred a blessing on all progressive bee-keepers throughout the world. Each member of the convention should know definitely what is expected of him, and then he should have plenty of time to experiment so as to reach intelligent conclusions before being called upon to report. This done, our future conventions will not be void of interest for the want of new ideas, and the results of our meeting cannot fail to be beneficial.

New York City.

For the American Bee Journal.

Des Moines Co., Iowa, Convention.

The Des Moines County Bee-Keepers' Association met in the Grand Jury Room in Burlington, Iowa, on April 28, 1885. The President, Geo. Bischoff called the meeting to order at 11 a. m. At the afternoon session the Treasurer's report was read and approved, and 12 members reported 344 colonies last fall, 208 this spring, and 6,680 pounds of honey as the total of their last season's crops. The election of officers resulted as follows: President, Geo. Bischoff, of Burlington; Vice-President, W. N. Smith, of Burlington; Secretary, John Nau, of Middletown; and Treasurer, S. J. McKinney, of Burlington.

Various subjects of importance were discussed, which made the meeting very interesting. It was then decided to hold the next annual meeting on the fourth Tuesday in April, 1886, in Burlington, Iowa, at 10 a. m.; also to have a special meeting in Burlington on the fourth Tuesday in August, 1885. JOHN NAU, *Sec.*

GEO. BISCHOFF, *Pres.*

For the American Bee Journal.

Preparing Bees for Winter.

W. D. SMYSER.

I have read all the various plans of wintering bees, and I find all of them wanting in such a winter as the past. I will now give the plan of preparing bees for winter as practiced in this section, and which, I think, accounts for the terrible losses of bees. When people get their summer's work done they have no time to fix up their bees, for they must "go to town" every day, and when they get home, if asked what they were doing, they would reply, "O, nothing;" but they knew all about politics and what hogs were worth. I have asked them why they do not prepare their bees for winter, when they say, "O, it's too soon. This is only September, and we are too busy; we can't now. We are bound to go to a sale to-morrow, and there is lots of time yet to put up the bees."

They continue this until November, or until it begins to snow, then they commence in earnest to fix for winter. The first thing done is to make a calf-pen, and the farmer says: "Well, now boys, them last-spring calves must be sheltered. There is money in them." "How long will they have to be fed, pa?" says one of the boys. "O, not long; about five months. Now, them bees must have a few shucks stuffed around them, and a few old boards over them to turn water. I guess they have enough honey to winter on. The robbers are so bad I can't look." And so it goes on until March, and how are things then? The calves are about half dead, and the owner gets perhaps 50 cents apiece for their hides, after making 300 trips to feed them. How are the bees? They answer, "Well, our bees wintered bad; all dead." How were they fixed for winter? "O, they was well packed; they had too much honey-dew and pollen."

One-half of the bee-keepers in the country winter their bees on the above plan. Nine-tenths of the bees in this county (Johnson) are dead. I put up 13 colonies, and the rats and mice destroyed 2 of them. There is no more use in letting bees die than other farm stock. I winter my bees on the summer stands. To read of the slaughter of bees during the past winter seems simply awful; and then to read about the various causes to which bee-keepers attribute their losses, such as pollen, "bug-juice," honey-dew, freezing, starvation, etc., is amusing. When I get to reading, I think that all are trying to see who can beat. It reminds me of the little boy that went to set the old hen, and when he returned his mother asked him how many eggs he put under her. He replied that he had put 40 in the nest. "Why, Tony, she can't cover that many eggs." "Well, mammy, you ought to come and see her spread herself."

Hereafter, I will endeavor to describe my method of preparing bees for winter. They came through the

winter of 1880–81 all right, and also the past winter. It entails no expense.

Nineveh, ⊙ Ind.

For the American Bee Journal.

Method of Wintering and Results.

JOSHUA BULL, (27—22).

At the end of the season of 1884 I had 27 colonies in chaff hives to prepare for winter on the summer stands. How shall I prepare them? was a question of great interest to me. Believing that upward ventilation is in direct contrariety to the nature of the honey-bee, that being a point which they seem to strive most strenuously to guard against, as is plainly manifested by their efforts to seal every crack and crevice above them perfectly air-tight with propolis at the approach of cold weather, reason and propriety seem to dictate, that in order to secure the desired end with the best results, we should assist the bees in every possible way we can to consummate those plans and provisions which their instinct has inspired them to make for self-preservation; not rudely tear them away, destroying their industrious labors, and expose the little creatures to the discomfort of air-currents, which they seem so much to dread, yet it is desirable to allow the moisture to escape upwards as much as possible without any passage of air or loss of heat.

Therefore, in accordance with the above views, when preparing my bees for the past winter, after removing all combs which were not needed for them to cluster upon, moving up the division-board, and filling the vacant space back of it with dry chaff, the same cloth which had been used to cover the brood-nest during the summer being allowed to remain for winter, and over this four sheets of newspaper were placed and fitted down closely to the top of the lower story of the hive; and an inch or two of fine chaff was put on top of this and spread evenly around against the outside, so as to be sure to hold the edges of the paper down tight. Instead of a cushion, I use a box made just as large as can easily be set in and out of the upper story of the hive, 6 inches deep, with cotton cloth tacked on for a bottom; this is filled with chaff and set in on top of the paper, which completes the covering. The paper effectually stops all passage of air, and yet it absorbs the moisture, passes it up into the chaff, and thus it escapes. The entrances, 8x⅜ inches, were left open the full width, boards being leaned up against the fronts of the hives to keep the wind from blowing directly in. In January, when the mercury was ranging down among the thirties, for weeks at a time, and even to 40° below zero, I shoveled snow around the hives, first placing a stick in position, so that after the snow was banked around, by drawing out the stick carefully, it would leave a hole about 2 inches in diameter to admit fresh air to the entrance of the hive. This air-passage was carefully kept open all winter.

Some of my hives are made long enough to accommodate 2 colonies in summer, and a third one can be placed between them for wintering, an entrance being provided for that purpose. I had 5 hives containing 3 colonies each, one hive with 2, and 10 colonies, one in each hive. By way of experiment, I arranged one colony so as to have about 5 inches of vacant space below the combs, and one colony which I did not value very highly, was put upon combs which contained little or no honey, but whatever pollen they might happen to contain; then, this colony was fed for winter stores exclusively some early-gathered honey, or, as I suppose, the "so-called honey-dew," which was so sickening to the taste that we could not think of using it on the table; and I wanted to see if bees would live through the winter on that alone.

On Nov. 15, the bees had a good flight; on the next day cold weather came, and came to stay. After the middle of December it became very severe, ranging below zero much of the time. On Christmas morning it was down to 30° below. The mean temperature through the month of December, computed from the lowest point indicated by my thermometer as carefully noted each day, was 7° above; for the month of January, 7° below; and for the first 24 days of February, about 10° below zero. The coldest morning during that period was that of Jan. 22, when it was 40° below zero. The bees had their natural stores just as they had gathered them, except the one mentioned above, and one or two others which I feared might be short, and so I gave them a little syrup to make up the deficiency.

By examination from time to time, I found that the paper placed over the bees was fulfilling the desired purpose even better than I had anticipated, for all would feel dry and warm next to the bees, when sometimes the top of the chaff above would be thoroughly soaked or covered over with a crust of frost. They got no opportunity to fly until Feb. 27, when they had a good cleansing flight on that day and the next. Examination at this date showed that one colony had evidently smothered early in the winter, the entrance having been tightly closed with snow and ice. Five or 6 colonies had been, and still were, badly affected by diarrhea, and much reduced in numbers; the remaining 20 were in fine condition, and all, or all but one, had more or less brood. From this time until the middle of March, the weather was quite mild, young bees were hatching out all the time, and things looked very hopeful.

But a change was coming; March 17 opened with the mercury 19° below zero, and the wind blew a regular blizzard for about two days and nights, and from this time to March 23, the mercury ranged from 10° to 16° below zero. During this cold snap my bees seemed to suffer much more damage and loss than they had all the previous part of the winter. If I had closed tightly the entrances of all the hives at this time, it would, no doubt, have been much better; or if I had removed the combs which they could not occupy, from the weaker colonies, and contracted their brood-nests, the result might have been different. But this not being done, 2 of the diseased colonies succumbed to the cold winds and froze; 2 more have since dwindled away until one has become extinct, and as I wished to save the queen of the other, I disposed of it by putting the queen and a few bees that were left with her, upon a comb of brood placed in a cage made of wire-cloth, and hung it in a hive with a strong colony, according to Mr. G. M. Doolittle's plan for forming nuclei in cold weather. Thus my stock is reduced to 22 colonies, and some of those are rather weak, but I hope to get along now without further loss, as the weather is getting quite warm, the bees have been bringing in natural pollen for several days past, and things begin to look encouraging again.

The colony that had the vacant space below the combs is one of the best; the one that had nothing but honey-dew and pollen to subsist upon, also came through in excellent condition. Their combs, frames, and inside of the hive are just as clean to-day as they were last summer. I do not think that there has been half a pint of dead bees in or around their hive since last fall. If all of my colonies had come through the winter as nice and clean, and with as small a percentage of loss as did this one, I would not ask anything better. I know this does not accord very well with the oft-expressed opinion that honey-dew is the cause of the wholesale loss of bees during the past winter; but in my case it is not guess-work, but the result of a careful experiment. Those colonies which were packed three in one hive, did not do as well as those which were one in a hive. All my losses and all the serious cases of diarrhea, occurred among those where 2 or 3 colonies were in one hive.

I have another experiment which I wish to relate, as it may be of interest to some: On Oct. 29, 1884, I put a queen and about half a pint of bees into a box 12 inches long and 5¼x6¼ inches, inside measure, containing 3 two-pound sections partly filled with comb and honey, which were placed in one end of the box, and kept in position by a glass partition, and held up from the bottom by ¼-inch strips placed under them, so the bees could pass from one part of the box to the other. One end of this box was formed of glass, the other end covered with wire-cloth. I could look into either end at any time and see something of what was going on inside. This was kept on a shelf in the pantry, which was in constant use, and exposed to the full light of day, and all the noise and stir of the house. The temperature was often up to 70°, sometimes 76°, and seldom if ever below 50°, during the winter. Some of the bees would come out nearly every day and buzz around awhile next to the wire-screen, and then retire. The section placed next to the glass-end of the box was mostly filled with white clover honey, but in the centre, at the upper part, was a darker colored spot about the size of a silver half-dollar, supposed to be honey-dew, which the bees broke into and consumed first of any. They reared a little brood, and the queen and some of the bees lived through until April 18, when I put them upon a comb of brood in a wire-cloth cage and placed them in a hive with another colony to form a nucleus.

Seymour, Wis.

For the American Bee Journal.

Bee-Keeper's Staff—Fronting Hives.

J. H. ANDRE.

A few years ago many of our scientific bee-keepers were making a practice of dividing colonies instead of letting them swarm naturally. Perhaps not one farmer in fifty ever had a colony divided, and many of our most successful bee-keepers have returned to the old way, and consequently must, at times, meet with much difficulty in hiving swarms, by their alighting on the trunks of trees or high up on the outward branches. Again, their favorite place will be on some valuable tree where it is almost impossible to get them without cutting the branches and spoiling the shape of the tree. Such was my experience until I made what I call a bee-keeper's staff, and then it was simply a pleasure.

To make the staff, use a piece of light timber 1¼ inches square, and plane one end 18 inches in length, and also make it eight-sided. The handle may be rounded 1¼ inches in diameter, and any length wanted. Probably two staffs will be handier—one 6 feet and one 12 feet in length. Now take strips of tough wood ¼ of an inch thick, five-eighths of an inch wide, and 12 inches long, and begin at the end of the staff and nail on a strip crosswise through the centre of the strip, and one on the opposite side; turn the staff one-eighth of the way around and nail on another and one opposite. It will take from 16 to 18 pairs of cross-pieces about one inch apart from centre to centre, each one being

nailed with three small nails to hold it well in place. If the staff is stained (not painted) a color that resembles a natural bee-color, a swarm will cluster on it sooner. The strips that are nailed on in the centre should be 15 inches in length, and gradually shortened each way to one foot at each end.

When a swarm begins to cluster, hold the staff under them, close to the object upon which they are alighting, and nearly all the bees will alight on the staff, and by moving it aside a little and agitating the remaining ones, all will be secured, and may be carried any distance to the hive and none will fall from the staff, which will save any extra trouble of carrying hives, and the flying back and forth of bees for a day or two, where one is hived and left to stand for one day and removed on the morning of the next. With such a staff a lady or an elderly person may hive a swarm easily even in a place where it would be difficult for two men without the staff; and as soon as the bees cluster, or a part of them (no need to wait for all, the rest will follow if you go slow), they may be hived in one-half, and in some instances one-quarter of the time; and there is not so much danger of two or more swarms uniting.

Hives should front east, southeast or south, east being always preferred if possible, on account of the morning sun warming the hives; later in the day the atmosphere becomes warm, and hives facing west (which is the worst direction of all) get the burning rays of the sun, when it is a damage rather than a benefit. If one has but a small plot of ground, and the hives are crowded, then it is best to vary the frontage, as the bees are thrown too much together, and are hindered somewhat in working. There is one other thing to be taken into consideration: It is hard work for laden bees to enter a hive with the wind, and hives should be set somewhat to conform with this in particular. Bees enter a hive best head against the wind, as they are not so liable to take a tumble and mix up in heaps as they would in entering with the wind, when heavily laden and cannot control themselves. But as in most localities the prevailing winds are from the southwest to northwest, a frontage from south to east will be all that is required. For smoker fuel the fungous excresences growing on decaying logs and trees in the woods, well dried and cut in pieces the size of a hickory nut, burn well, and last a long time. If, however, bees are at all inclined to be vicious, take cheap smoking tobacco, perhaps the refuse stems would do, but care should be taken not to smoke them too much, as it soon puts a quietus on the bees, and too much smoke might make the honey taste, if wanted for use in a few days. I scarcely ever use anything but tobacco, and I can quiet the very worst colony in 10 seconds.

Lockwood, N. Y.

For the American Bee Journal.

Marshall Co., Iowa, Convention.

The Marshall County Bee-Keepers' Association met at the Court House in Marshalltown, Iowa, on April 18, 1885, with the President, Mr. J. Swift, in the chair.

At the afternoon session the minutes of the previous meeting, as published in the BEE JOURNAL, were read and approved, and five new members joined the Association. The election of officers for the ensuing year resulted as follows: President, O. B. Barrows, of Marshalltown; Vice-President, Jos. Swift, of State Centre; Secretary, J. W. Sanders, of Marshalltown; Treasurer, G. W. Calhoun, of Marshalltown.

The subject of "Spring management of bees" was then introduced by Mr. Cœper. He allows small entrances, keeps all warm during early spring, and uses artificial pollen and other feed when necessary. When the honey-season begins he gives more room in the hives. He keeps all drone-comb out of the brood-chambers of all colonies except one selected colony, and also one colony is selected for the purpose of rearing queens; both the drone-rearing and the queen-rearing colonies are selected for their Italian purity, and for a combination of other good qualities. When ready to rear queens, he removes the queen from the particular colony, when the colony starts a number of queen-cells, which he uses for starting new colonies. He allows colonies plenty of room, and controls increase by the nuclei system of swarming. By this means he gets all his young queens from his best stock. He prefers the Italians for all purposes, but owing to other strains around his apiary, he finds it hard to keep them pure. Out of 18 queens reared during the past season only 9 were purely mated; the others produced hybrids.

Mr. Barrows made some remarks on the necessary spring supplies for the apiary. He put out his bees on March 11, but thought perhaps he had put them out too soon, as some had weakened since being put out. They did not carry in rye pollen until March 29. Mr. G. W. Keeler put his bees out on March 28, and Mr. Haskins put his out on April 6.

President Swift said that he began in 1883 with 4 colonies, simply as a recreation, and for the interest that he took in the study of bee-keeping. In 1884 he began with 7 colonies, having lost none during the previous winter, increased his number to 21, and took 300 pounds of honey which he sold at 15 and 20 cents per pound. During the past winter he lost 8 colonies, and thought that 75 per cent. of the bees in his vicinity, that were not properly cared for, were dead.

In regard to wintering bees in cellars containing vegetables, Mr. Barrows said that it did no harm; but keep the cellar warm enough—about 45° above zero. He thought that 90 per cent. of the colonies left on the summer stands during the past winter, were dead.

Mrs. Van Meter said that she put in 21 colonies last fall, and had lost 2 since putting them out. Mr. Cover put in 56 colonies, and took out 54 alive. He does all he can to get all the colonies strong by the time the honey harvest begins.

The Secretary, in speaking of the spring care of bees, showed the great need of the division-board for contracting the size of the brood-nest to suit the size of the colony; and he would even up weak colonies by taking frames from the strong ones, and get all as strong as possible by the time of the white clover harvest. He also spoke of the advantage of having uniformity in frames and hives, as it aided materially in caring for the bees properly.

In reference to drone-comb in the brood-frames, and keeping empty combs from the moth, Mr. Cœper said: Keep all the drone-comb cut out, and place such frames in the middle of the brood-nest, when worker-comb will always be secured; if not, cut it out again. If the combs have become old, cut all out and let the bees build new ones, or put in comb foundation, and replace them in the centre of the brood-nest, when the object will be accomplished. To keep empty combs from the moth, store them in a dry place, and fumigate them with sulphur smoke two or three times, keeping them enclosed so moths cannot get at them.

The Secretary said that he had successfully fumigated empty combs by rolling up some sulphur in a piece of cotton cloth, and using a bee-smoker in fumigating them.

The subject, "Care and marketing of honey," was then discussed.

Mr. Cover thought that we needed some responsible party to handle our honey for us; but Messrs. Keeler, Moore and others thought best to sell it direct to the consumers, as much as possible, and not to run each other in prices. They also advised putting up honey in good shape for the market, and not try to compete with the honey that is brought to market in a broken-up mess in jars, or in large boxes and tubs. Nearly all consumers would gladly pay more for comb honey in one and two-pound sections than for that which is broken or slovenly prepared for market.

In caring for comb honey, Mr. Keeler said that he keeps it in a warm, dry place; and the extracted honey he first puts into barrels which have parts of the heads removed, and covers the openings with cloths, which allows the honey to ripen well by evaporation. It is then drawn from the barrels and put into any kind of vessels desired. He does not endeavor to keep it from granulating.

As a full report could not be obtained, the Secretary requested that all the members forward to him their reports stating the number of colonies last fall and their present number, which will then be sent for publication. He also stated that the Fair premium-list would be the same this year as last, and hoped that all would endeavor to make a good exhibit.

The subject for the next meeting is, "Fall care of bees." Adjourned to meet on Saturday, July 18, 1885.

J. W. SANDERS, Sec.

O. B. BARROWS, Pres.

For the American Bee Journal.

Is it Necessary to Wire Frames?

O. CLUTE.

For the last few years we have heard a good deal about wired frames, and quite a number of bee-keepers are using them. In their favor two claims are made—that the combs in wired frames are stronger than in unwired frames, and that the foundation in such wired frames does not sag so that some of the cells become drone-cells. Perhaps a bit of experience may be of service on these two points.

Strong combs, that is, combs strong enough to endure any strain that may be expected to come upon them, are desirable. They should be strong enough to bear up the weight of the brood even in the heat of summer; they should be strong enough to be used safely in the extractor; and they should be strong enough to be shipped by express in case one wants to ship bees. This is all the strength that they need; any strength above this is quite superfluous, and involves a useless expense. The wise bee-keeper will labor to have his combs strong enough; he will not care to have them needlessly strong.

I work my apiary entirely for extracted honey, and in the course of the summer I extract from nearly every comb in it. I keep my hives standing in the sun, and they have no shade of any kind even in midsummer. I ship bees in large quantities, and to long distances, and if anybody needs strong combs, I do; if anybody has trouble with unwired frames, I ought to have trouble. I have never had a wired frame in my apiary, and as to combs melting down in the sun, it never happens. For the last three years there has not been a comb that has melted down. In extracting it is very seldom indeed that a comb is broken. In one season I shipped by express 140 colonies of bees, and did not have a particle of trouble with one of them. I have every year, for the last four years, shipped from 40 to 140 colonies of

bees by express, and have never had a comb break down.

So far as my experience goes as to the strength of combs, wired frames are needless. The expense of wiring them is a useless expense. Somebody in his exuberant praise of wired frames, said that he could throw the combs across the honey-house without breaking them. But why should anybody want to throw combs across the honey-house? Another said that he could dance on the frames without breaking them. Again, why should anybody want to dance on the frames?

The other claim in favor of wired frames is, that foundation in such frames do not sag or stretch, and hence that no cells become enlarged into drone-cells. For seven years I have had all my combs built on full sheets of foundation, using several hundred pounds of foundation each year, and I have now in my apiary about 3,000 combs built on foundation; of the combs built on foundation there are very few indeed that have any drone-cells—not enough to do any harm at all. By a very little care in the use of combs, drone-cells are kept out of every colony that ought not to rear drones.

If it were necessary for me to wire frames in order to prevent the appearance of drone-cells, or in order to make the combs strong enough to bear the strain that naturally comes on them, I should wire them. My experience proves that for me it is not necessary, and I therefore decline to wire them.

Iowa City, Iowa.

Farmers' Home.

The Little "Busy Bees."

EDWARD GRIMES.

Ever work the busy bees,
In the fields of clover;
Toiling from the morning hours
Till the day is over;
Oft they sip the honey pure
From the snow-white chalice:
Then they linger for awhile
In a lily palace.

In a little yellow cup,
With the greatest angle,
There they put each honey-drop,
Shining like a spangle;
Then they close each tiny cell
Till the days are colder,
For the little bees to eat,
While they're growing older.

Every lovely day they fly
Till the summer's over,
Either in a butter-cup
Or upon the clover;
Either in a nodding-tree
On a mellow apple,
Or they rest upon a bud,
Opening white and dapple.

For the American Bee Journal.

Queens Conveying Foul Brood.

W. H. STEWART.

Those engaged in apiculture are, as in other branches of business, only successful when their energetic and well-directed labors bring success. The pathway of progress is ever beset by obstacles which must be overcome ere we reach the goal of success that lies beyond. The overcoming of many serious obstacles is what has elevated bee-keeping of the present day, far above that of 40 years ago. There are yet, however, obstacles which must be overcome, or disaster will come after all the advancement we have made.

How to dispose of our honey at remunerative prices; how to successfully winter our bees in our Northern climate; and how to preserve the general health of our bees at all times or seasons of the year, are questions that should command the attention and enlist the labors of every bee-keeper. In giving my views on the last of these important questions, I am well aware that I shall incur the displeasure of many bee-keepers; however, I will endeavor to meet what objections may be raised.

In reading the many books and periodicals published in the interest of apiculture, we notice a general fear in regard to that disease often found among bees—improperly called foul brood—which often sweeps away whole apiaries, leaving in its wake nothing but the dead and rottenness; not only so, but in many instances it strips the poor bee-keeper of his only means of support. Now, it is quite clear that two things must be done, in order to secure safety; viz: First, we must be able to cure or weed out the disease where it now exists; and second, we must prevent its being spread in such a manner as to reach those colonies which are, as yet, in a healthy condition.

Mr. Cheshire, on pages 644 and 740 of the BEE JOURNAL for 1884, seems to feel quite certain that by superseding the diseased queen, and properly using phenol, all colonies suffering from the dreadful disease may be effectually cured. If this be true, and Mr. C. or some other expert could have the management of all the diseased colonies, and it were not allowed to spread, then we might reasonably expect to "stamp it out;" but here is where the trouble comes: There are many who keep their bees in a sort of "slipshod" way, and when the bees become diseased, they let them fight it out in their own way as best they can, and in warmer climates a disease may linger for years. From such apiaries the disease may be spread to others which are more carefully managed; and as many of these apiaries are used for the production of queens for the market, thousands of young queens may become fertilized by diseased drones, as proven by Mr. C's discovery; and as such queens begin to lay they are pronounced ready for the market. As the apiarist has no means of knowing whether the germs of destruction are in the queens' bodies, he mails them to his customers, and foul brood is scattered in every direction; and a single queen introduced to a colony, would soon spread death and destruction throughout a whole apiarian district. All reasonable bee-keepers will readily see that just so long as the trade in queens and nuclei is kept up, just so long will foul brood be found cropping out here and there wherever bees are found.

It is true that many queen-breeders are honest, and doing all they can to improve the stock of bees; yet it is also just as true that many bee-keepers are like men in other business—making financial success paramount to all other considerations. Again, it is true that it makes but little difference whether we purchase a queen from a careful or from a careless dealer. Mr. C. has proven that no dealer in queens can know positively that all the queens which he sells are free from the germs of foul brood. Only last year we read in the BEE JOURNAL that foul brood had been shipped, and it turned out that both parties may have been innocent.

What are we to do? Abandon the business and get out as nearly whole as we can? or agree on some plan to protect the apiaries that are yet in a healthy condition? I propose that we continue in the business, and that we purchase no bees or queens from abroad, and in every proper manner discontinue the shipping of bees from place to place by bee-merchants, and that we require that the carrying of queens in the mails be discontinued by law. We have often been told that we would be just as well off to breed our own queens, as to send away for them. We could easily try the experiment of receiving no bees from abroad for five years, and where the disease is found to exist, cure it if possible.

Some have proposed that laws be enacted that would authorize certain persons to visit all apiaries and examine all the colonies to ascertain whether foul brood is present. Let us suppose that a committee had thus found foul brood in one apiary, and had handled it while disposing of it, and then goes on twenty miles and reaches my place; they inform me of their business, and what they had just been doing; do you suppose that I would allow them to begin to overhaul my colonies? Not much; I would not allow them to remain in my house or on my premises for a moment; and I would resort to any lawful means to get them out of the community as soon as possible. All reasonable bee-keepers would justify me when they once understood the nature of the case. Such committees would only be another vehicle for the spreading of the disease.

Mr. Doolittle, on page 245, seems to partially quiet his fears by a kind of an uncertainty whether Mr. Cheshire has been treating the same disease of bees that is known here as "American foul brood." His article leads to some important questions: 1. Was not Mr. D. as liable to labor under a mistake in regard to the real foul brood as was Mr. Cheshire? 2. Does he know that the spores of the disease do never adhere to the feet or bodies of the bees? 3. If the spores carried on the bees, or in the honey that the bees carried with them when driven from the filthy hive to the new one, would die and never develop the disease in the new hive, then why burn the old hive? Why not wash and paint it, and conclude that the spores left behind were just as harmless as those carried into the new hive?

If I understand the many bee-books that I have read, and which are writ-

ten by the most able and experienced bee-masters, the spores of the fungus are carried in many ways from hive to hive, and also the most severe freezing does not kill them, but if in after-years swarms are put into the old hives which once contained foul brood, the germs would develop and destroy the new colony. If all the books and masters are in the wrong, and Mr. D. is right in his method of curing the real foul brood, then it follows that it is all nonsense to burn the infected hives, and that we need have but little fears of foul brood that can be so easily cured.

We have now come to a crisis. If Mr. Cheshire knows foul brood, then the queen-traffic must stop, or disaster will be the result. If he is handling a different disease that is quite or nearly as bad as American foul brood, then the queen-traffic must stop, or we will soon have it in America—yea, all over the world—and disaster comes. Shall we rush heedlessly on, or hault, and acquaint ourselves with the uncertain ground that lies just before us?

Orion, ♀ Wis.

[It may be well to ascertain Mr. Frank Cheshire's views on this subject, and we will quote the following article from him in answer to some questions on the same subject in the *British Bee Journal* for April 15, 1885:

It is not more than ten months since I started those investigations which have scattered almost every previously held notion respecting foul brood, to the winds, and it would be unpardonable vanity to suppose that the whole question has as yet been exhausted.

That queens can and do sometimes bring disease to the colonies into which they are inserted, I have put altogether beyond question; and this fact, although perhaps at first unwelcome to dealers, is, after all, an addition to our knowledge, which tends directly to the advantage not only of the bee-keeper, but the dealer himself, since the interests of the two, when clearly understood, are found to be identical. No caution—because no caution was considered necessary in sending out queens—has, no doubt, often been a fruitful cause of calamity by spreading disease, and so many have in disgust given up the hobby. If dealers forewarned now act conscientiously, this can all be avoided, and one of the occasions of disappointment and vexation eliminated.

As to whether queens reared from a diseased mother would be free from the disease, I can only answer with reserve. From such a queen, I should imagine it would be extremely unlikely that any progeny would be actually healthy. She was riddled by the disease in every part, and since I have actually witnessed the pest at work in unlaid eggs, few of hers could be supposed to be free. This malady, although quickly killing the grubs, on account of the extreme softness of their tissues, which allows the *bacilli* to travel through and through them, does not seem to rapidly make an end of the adult bees; and I have found the disease confined to one, and vary in three cases, and confined to the spermatheca in four, indicating that the queen in these cases was born healthy, but had contracted disease at her mating.

Another queen was diseased in the liver, and in the liver only, as far as I could find. This clearly proves that in the adult insect the infection may be localized, and assume a chronic instead of an acute form, reminding of a *bacillus* disease to which our poor flesh is heir; viz: consumption, which will remain in abeyance during conditions making for health, and will then, when the vitality is lowered, break forth in one lung, or in the mesentery, or brain; and then more or less quickly wreck the whole organization of the body. It is, therefore, quite possible that a queen may be long diseased, and that her progeny may not be affected until her egg-bearing organs are reached. If this view be correct, and I only feel that the evidence is not as yet sufficient in amount to warrant a very positive assertion, then such a question as the one now in hand admits of no categorical answer. The condition of the queen at the time must be fully known before a definite yes or no can be given, but I would strongly urge the desirability of breeding only from queens that have given the very highest results. Never, on any account, allow a cell from a weakling to mature.

For editorial comment on this question, the reader is referred to the first page of this JOURNAL.—ED.]

SELECTIONS FROM OUR LETTER BOX

Every Promise of a Good Season.—G. W. Demaree. Christiansburg, ♂ Ky., on May 7, 1885, writes thus:

I have to report severe losses of bees in this part of Kentucky. Starvation was the sole cause. Our bees are nearly, if not quite a month behind. Fruit-bloom is going without much benefit to the bees. Dandelion is helping the bees along now, and soon the famous black locust will give the bees a busy harvest. Contrary to my, fears, the white clover is uninjured by the cold, dry winter. We have every promise now of a good honey-season; but our colonies are not strong enough to make the best of the situation.

What Ails the Bees?—C. K. Schwing, Baton Rouge, ⊙ La., on May 5, 1885, writes thus:

My bees seem to be sick; they swell up and crawl about on the ground in front of their hives until they die. I find a yellow mass in their abdomens, and it smells sour. What is the matter with them? They have their hives full of new honey, and we have had good weather all spring.

[It is evidently diarrhea, but with "good honey in the hives," and "fine weather all the spring," it seems strange for bees in Louisiana to be afflicted with diarrhea.—ED.]

Purifying and Testing Beeswax, etc.—7—Paul Scheuring, (75—68), Nicollet, ☉ Wis., on May 1, 1885, writes as follows:

As near as I can find out, about ¼ of the bees are dead in this section. I commenced the season of 1884 with 36 colonies, increased them to 75, by natural swarming, and obtained 2,200 pounds of comb honey in sections, and nearly 2,800 pounds of extracted. I fed one barrel of granulated sugar for winter stores. I lost 7 colonies during the past winter—2 from diarrhea, 1 suffocated, and 4 became queenless in the winter, so I united them with other colonies this spring. I may lose 1 or 2 more by spring dwindling. I had 5 colonies in the cellar and 70 outside packed with sawdust. I packed them on Oct. 1, and as the sawdust was green this gave it time to dry before winter, at least that next to the hive. I had a cake of beeswax which had tallow or grease mixed with it. Is there any way of separating it? A druggist told me how to tell when there is grease mixed with wax. It is as follows: Scrape a smooth surface on the cake of wax; if it is pure one can write on it with a pen and ink; if it has grease in it, it will act the same as if trying to write on greasy paper. This is a simple test, and may save some other bee-keeper from being swindled the way I was.

[By request, Messrs. Dadant & Son reply as follows: "We do not know of any way to remove or separate tallow from wax, and do not think that there is any. Such wax is only fit to be used for grafting-wax or candles. There is a very simple and prompt way to detect tallow in wax at ordinary temperature; by scratching wax with the finger-nail. If pure, the wax will shine; but mixed with tallow, it will have a dull-looking color. Besides, it has a greasy touch at all times. In breaking a cake of tallow wax, the smell of lard or grease can readily be detected in a fresh break."—ED.]

Brood Chilled—Cold Weather.—J. C. Mishler, (9), Ligonier, ♂ Ind., on May 4th, 1885, writes us the following:

There is a frost nearly every morning, on May 3 ice formed nearly ¼ of an inch thick, and it was so cool that the bees flew only about two hours in the middle of the day. Bees were dwindling away very fast, so that colonies that were pretty strong in the middle of April, and that had brood started in 2 to 4 frames, are all dwindled away now, or are not strong enough to cover the brood during these cool nights. To-day I found some chilled brood in some of the hives. The past was the hardest winter on bees that I ever experienced. The way I had my bees prepared for winter was as follows: They were on the summer stands on from 5 to 8 frames, and holes through the combs or small sticks of wood on top of the frames for passageways. I used division-boards on both sides of brood-chambers, cotton cushions on top of the frames, and then I filled the upper story with clover chaff, and also on the sides of the division-boards, and yet I lost heavily. I think that the cause was long confinement and the poor honey which they gathered during last August and September. The honey-dew, or "bug-juice" as some call it, which they also gathered last fall, together with long confinement, I think gave them the diarrhea, and thus they died with lots of honey in the hive. Unprotected colonies are all dead. There are about 50 colonies left out of 450 in one township.

Wind-Breaks—Bee-Passages.—Wm. M. Ross, Lebanon, ♀ Ills., on May 1, 1885, says:

Although the winter just passed has been unusually severe, and a great many have lost heavily, some even all their bees from one cause or another, my losses are very light, being only 2 colonies out of 80. My bees were all wintered on the summer stands in single-walled hives with natural stores—pollen and all—except one colony which had frames of honey taken from an upper story which contained little or no pollen. This colony fared no better than the rest. I never had bees in better condition in the spring than they were this spring. I think a good wind-break is necessary in such winters as the one we have just passed through; and above all have the hive so arranged that the bees can pass over the tops of the frames, for this will often keep them from starving with plenty of honey in the hive, as in very cold weather the heat from the cluster passes upward, and the bees are enabled to pass from one comb to another, where, if they had to pass under the frames, they would be chilled as soon as they left the cluster. Bees are gathering honey from the fruit-bloom to-day.

Sugar Syrup for Winter Stores.—W. M. Carr, Bradford, ♀ N. H., on May 1, 1885, writes thus:

In the spring of 1884 I obtained 2 colonies of pure Italians, and increased them to 6 colonies by division. In the fall I extracted the honey and fed sugar syrup to 4 colonies, and left one of these, and one with full frames of honey, packed in chaff on the summer stands. I put 3 colonies having syrup stores, and one with fall honey, into the cellar under my house. The 4 colonies that had sugar syrup came through in good condition with very few dead bees; both of the colonies that had honey died, and the combs are badly soiled with diarrhetic excreta.

Heavy Losses of Bees.—11—R. C. Aiken, Shambaugh, ♀ Iowa, on April 30, 1885, writes as follows:

The winter of 1880-81 was a very severe one, but during the past winter, although not quite so long or severe as that of 1880-81, the loss of bees has been much greater in this part of the country. I have been gathering statistics with the following results: Reported in this county (Page) last fall 700 colonies; yet living 175. This represents, perhaps, not more than one-half or two-thirds of the bees in the county. One bee-man who had 110 colonies last fall, and who wintered about one-half of them in a cellar, saved a little over one-half of his number; about 90 per cent. of the balance were wintered without protection. Taking the county over, I am satisfied that there is not more than 10 per cent. of the bees now living. Cellar wintering has proven the best by about 50 per cent. The winter of 1880-81 was one of steady cold from November to April (the bees having no flight for about 5 or 6 months), and with a great amount of snow, but with an average temperature somewhat above that of the past winter. Last winter set in about Dec. 1, and was noted for spells of intense cold with one thaw every moon, and with spring opening in March. We did not have the amount of snow in this part of the country last winter that was had in other parts. The following is a comparative statement of the condition of the bees for the two winters: In the fall of 1880, the colonies were strong, they had plenty of fall honey, it was steady, long-continued cold, no flights, and diarrhea, with desertions in the spring. In the fall of 1884 the colonies were weak in numbers and honey; they had a flight about once in every four weeks. By midwinter one-half had starved to death, and by February there was much breeding, diarrhea and starvation with some freezing, resulting from intense cold following a few days of warm weather. In March and April there was dwindling and starvation. The loss for 1880-81 was from one-half to two-thirds of the bees; loss for 1884-85, three-fourths to nine-tenths. Deductions: With plenty of stores and an even temperature, if not too low, is best. Cellar wintering is better than out-doors. My own report for the season of 1884 is, no honey taken. It was the poorest honey season in ten years. I increased my number of colonies nearly one-half. My number, last fall, was 80; now, 11. Out of 425 colonies reported for Madison county, only 14 are left. One apiary consisted of 200 colonies, now nothing is left; another of 190 colonies fared the same.

A Southern Honey-Plant.—Harry W. Mitchell, Hawk's Park, ⊙ Fla., writes thus about a Southern honey-plant:

I send you a small branch of a plant as I wish to know its name. It is the best honey-producer we have here during March and April, with the possible exception of the orange. I cannot find out the name of it from any of the residents here; some claim that it is a species of myrtle, which I hardly believe.

[The plant is "Kalmia augustifolia." I am glad to hear such high praise of this beautiful plant, which Prof. Agassiz styled the gem of the vegetable world. As will be seen on page 285 of my Manual, a near relative has been given a very questionable reputation. I have long wondered whether any of the mountain laurels produced poisonous honey.—A. J. Cook.]

Cold, Rainy Spring.—13—C. M. Kingsley, Elvason, ☌ Ills., on May 1, 1885, writes:

The sun is shining this morning, and what bees are left are beginning to fly. The winter was so hard on them, and the spring has been so cold and rainy, that I feared I should lose all of my bees, but I still have 20 colonies left, which I think will survive.

Cleansing Spotted Combs.—I. N. Bayles, Urbanna, ☍ Iowa, writes as follows:

My loss during the past winter was 17 colonies out of 55; the most of them having died with the diarrhea, and some that were quite strong when put out of the cellar, have dwindled badly. The weather has been so cold that they could not gather pollen at the time they needed it. is there any way to clean combs that the bees have spotted? I do not think it a good plan to use them if they can be cleaned, as the bees will not remove all of the spots from them; but they will store honey in them to winter on, and then perhaps die during the next winter. As far as I have heard, the loss of bees in this part of the country is about one-third. Last fall there were 734 colonies of bees, and the total product of honey and beeswax for the past season was 14,799 pounds of the former and 170 pounds of the latter.

[That which the bees leave on the combs, after cleansing and using them, will not be injurious to the health of the bees—being only stains which would be difficult to remove even if attempted by the apiarist.—Ed.]

Pollen and Larval Bees.—Prof. A. J. Cook, Agricultural College, ♀ Mich., writes thus:

I wish to express my hearty endorsement of the able article from Mr. J. Rutherford, on page 232. The article criticizes two points in my Manual. The first point criticized I leave wholly to the readers, as I have no desire to change the sentence in the Manual. The point to be enforced, is that the larval state is the one of growth and nutrition, par-excellence; and this is true of bees, as of all insects. I had no desire to go into details. The next sentence is surely worthy of criticism, and will be changed in the next edition, thanks to Mr. R. I never thought that pollen was direct food of larval bees, although the sentence so puts it. Pollen is never given as food to bees directly, but is necessary either through secretion or digestion on the part of the bees, to furnish the pabulum for the larvæ. When I penned the sentence, I had no thought that pollen, as pollen, was fed to bees; I meant to show that it was necessary to brood-rearing. Whether the jelly fed to young bees is wholly a secretion, or is in part digested pollen or pollen and honey, is not yet shown. True, some of the savants of Germany hold that it is wholly a secretion; yet they are not positive.

Black Drones and Italian Queens.—D. L. Shapley, Randallsville, ⊙ N. Y., writes thus on the above subject:

I have been told that drones from a pure Italian queen that was fertilized by a black drone were just as pure to breed from as were those that were reared from an Italian queen that was purely mated. I have not had experience sufficient to know, and I wish to keep my colonies as pure as I can. I have had good success, I think, for I have lost only 2 colonies during the past two years, while others around me have sometimes lost nearly all of theirs.

1. I have a pure Italian queen that was fertilized by a black drone; will a queen fertilized by a drone reared from such a queen produce pure Italian bees?

2. I have a quantity of foundation made one year ago; will bees work on it as well as on foundation made this season? Will it pay to have it melted and made over?

[1. No.

2. It is not necessary to melt up old foundation. Dip the sheets in hot water (say from 100 to 110 Fahr.); and then keep it in a warm room till needed. The bees will accept it just as readily as newly-made foundation.—Ed.]

Great Losses of Bees.—James Ronian, Villisca, ♀ Iowa, on April 30, 1885, writes:

Over three-fourths of the bees in southwestern Iowa are dead. I had 41 colonies that hibernated for good; one of my neighbors put up 90 colonies last fall, and now he has 2 left. Bee-keepers with 10 to 15 colonies have lost all. There are a lot of long-faced bee-keepers in this part of the country. What bees are alive are doing well. They died in cellars as well as on the summer stands. Diarrhea was the cause.

Those Ventilation Reports.—James Heddon, Dowagiac, ♀ Mich., writes thus concerning them:

I am receiving many valuable reports on ventilation, but what I had reference to, and most want, is regarding the smallest amount of ventilation given in winter repositories. I wish that bee-keepers would respond to that question as soon as their convenience would admit.

Bees in Good Condition.—Charlie W. Bradish, Greig, N. Y., on May 1, 1885, writes as follows:

Last fall I put into the cellar 93 colonies of bees, and I have lost 2 colonies and 1 nucleus; the rest are in good condition. I put them on the summer stands the last week in April. My bees are a cross between Italians and German brown bees: they winter better than pure Italians. There has been a great loss of bees in this county, among box hive bee-keepers, who will likely give up the business.

Colonies Leaving their Hives.—Henry Kohnadel, Fair Haven, Ills., on April 27, 1885, writes thus:

Last fall I placed 20 colonies of bees in a house prepared for the purpose, and this spring I took out 19 colonies in good condition, one having the diarrhea. My bees were doing well until yesterday, when 3 colonies came out of their hives as if they were swarming, and went in with other colonies, leaving plenty of honey and young brood. This is something I have never heard of before. 1. What was the cause of their doing so? 2. What is best to do with the honey and combs in the vacated hives? Can I save it and put other bees in these hives when I have swarms?

[1. Something distasteful to the bees caused them to leave the hive; it would be difficult to determine what that was, unless we were on the spot and could get some clue to it.

2. All you can do is to give the frames of brood and honey to weak colonies, and use the hives for swarms, or when dividing for increase. The empty combs should be kept in a tight box and fumigated with sulphur occasionally to keep the moth from destroying them.—ED.]

Expecting a Good Season.—Wm. Anderson, Sherman, Mo., on May 5, 1885, says:

My bees are not doing as well as they were two weeks ago. The weather is very cool, and keeps everything back. Very few bees are left in this neighborhood, most of them having frozen or starved. I am looking for a good yield of honey this year, as there was very little honey gathered from wild flowers last season. Last year my honey was mostly from buckwheat and white clover, but all of the late honey was from buckwheat, as dry weather set in and caused everything to dry up, and thus it cut short the fall crop of honey.

Backward Spring.—H. O. McElhany, Vinton, Iowa, on May 2, 1885, writes:

The loss of bees has been about one-half in some localities here, and not so much in others. The spring is backward, and a good many bee-keepers have lost from spring dwindling. Bees are now gathering pollen from box-elder and elm.

Report, from O. C. Stickles, Canton, N. Y., on May 2, 1885:

On Nov. 15, 1884, I put 49 colonies of bees into the cellar, and on May 1, 1885, I took out 44 colonies in good condition, 5 of the original number having starved. My cellar has no ventilation, except what is given by a window, and I think that is quite sufficient. I have never lost a colony in the cellar, when the bees had plenty of honey to winter on, unless a colony became queenless.

Colonies Strong and Breeding.—A. E. Manum, Bristol, Vt., on May 4, 1885, writes thus:

My bees have wintered well, considering the severity of the past winter. My loss is 4 per cent., caused by starvation, mice and queenlessness. There was no diarrhea among them. The balance are very strong, and are breeding rapidly; I never had bees any stronger at this season of the year. I hear of great losses around here among the box-hive bee-keepers.

Report, from B. E. Foster, Utica, N. Y., on May 4, 1885:

On Nov. 28, 1884, I put 21 colonies into winter quarters, and I removed them on April 18, 1885, there being left 17 colonies as good as any in this State. I do not want much honey or many bees in the hives when put up for winter, and let them have all the pollen they store. Of the 4 colonies lost, 1 was queenless, and 1 was in a box-hive, so I did not know whether it had a queen or not, but the other 2 were the best in the whole lot—strong in bees, and had plenty of honey—and they had the diarrhea. If I have a good bee-house, and the hives contain a few bees, and just enough honey to bring them through, and if each colony has a good queen, I have no fears of winter, at least such has been my experience.

Using Combs from Depopulated Hives.—John Yoder, Springfield, Ont., on April 28, 1885, writes thus:

The past has been a very hard winter on bees. All the small bee-keepers have lost nearly all, and the larger bee-keepers at least half of their bees. I have lost 43 colonies out of 90, and consequently I have on hand all their combs (364), which have more or less honey in them, and all are more of less soiled, as the bees died of diarrhea. I would like to have the following questions answered: 1. What is the best and quickest way of getting my empty combs occupied? 2. Would it pay to buy untested queens at swarming time, and put them into the old hives when a swarm issues? As my bees are blacks, would the above be a good way to improve my stock? 3. How can I best clean the old combs, or if scraped as clean as possible, will the bees readily accept them? I have left from last year 300 nice combs (in all over 600), and, of course, I want to increase my number of colonies, but not at the expense of honey.

[1. Give the queens plenty of room for eggs, by using the empty combs, and then divide the colonies as soon as they become populous enough.

2. Yes; if you do not care for pure stock.

3. The bees will clean the combs, if given a few at a time, better and cheaper than you can do it.—ED.]

Still Cold and Snowing.—L. Reed, Orono, Mich., on May 3, 1885, reports thus:

On April 6, my bees had been in the cellar for 147 days, when I removed them for a flight. I returned them to the cellar after having their flight, and again put them out on April 25, and they soon began to carry in pollen. I lost 6 colonies out of 34, 4 having starved, and 2 were queenless; the rest are in good condition, strong in bees, but light in stores. I am now feeding them, and shall continue it during this month. The past winter was the coldest I have ever seen, and we are having a backward spring; to-day the ground is white with snow, and it is still snowing. Although we have had some warm days, yet this morning I covered up my hives with blankets and old carpets so as to keep the bees as warm as possible. It froze quite hard last night. I am very well satisfied with my success in wintering my bees, considering the hard winter. The most of the bees in this locality are dead.

Honey and Beeswax Market.

Office of the AMERICAN BEE JOURNAL,
Monday, 10 a. m., May 11, 1885.

The following are the latest quotations for honey and beeswax received up to this hour:

CHICAGO.

HONEY.—Demand is light and receipts are also light as it approaches the end of the season. Prices range from 10@15c. for best grades of comb honey, and for extracted, 5@7c.

BEESWAX.—Yellow, 27@30c.

R. A. BURNETT, 161 South Water St.

BOSTON.

HONEY.—We quote the following prices: Fancy white comb in 1-lb. sections, 16@18c.; the same in 2-lb. sections, 15@16c; fancy white California 2-lbs., 12@14c. Extracted weak, 6@8c. Sales very slow.

BEESWAX.—32 cts. per lb.

BLAKE & RIPLEY, 57 Chatham Street.

NEW YORK.

HONEY—Of late we have had quite a stir in our honey market, and comb and extracted has moved freely. Since Sept. 1, 1884, we have received 197,002 lbs. of comb honey in 1 and 2-lb. sections, and 112,000 lbs. of extracted. We quote prices obtainable as follows: Fancy white comb in 1-lb. sections, 14@15c; the same in 2-lb. sections, 13@14; Fair to good white comb in 1-lb. sections, 12@13c; the same in 2-lb. sections, 11@12c. Fancy buckwheat comb honey in 1-lb. sections, 9c; the same in 2-lb. sections, 8c. Ordinary grades not wanted. Extracted white clover in kegs or barrels, 7@8c; extracted buckwheat, or dark, in kegs or barrels, 6@6½c.

BEESWAX—Prime yellow, crude, 32@33c.

MCCAUL & HILDRETH BROS., 34 Hudson St.

CINCINNATI.

HONEY—Nothing new has transpired in the market. Demand has improved for good qualities of extracted honey, but the large stock on the market keeps prices low. It brings 5@9c on arrival.

BEESWAX—It is in good demand and brings 26@30c on arrival.

C. F. MUTH, Freeman & Central Ave.

SAN FRANCISCO.

HONEY—Nothing is doing on export account, and very little local trading. There is considerable honey still on the market, but stocks do not include much of strictly choice quality. White to extra white comb, 8@9c; dark to good, 4@7c; extracted, choice to extra white, 4½@5½c; amber colored, 4½@4¾c.

BEESWAX—Quotable at 23@25c—wholesale.

O. B. SMITH & Co., 423 Front Street.

ST. LOUIS.

HONEY—Steady; demand and supply both small. Comb, 12@14c per lb., and strained and extracted 5½@6c.

BEESWAX—Firm at 32@32½c. for choice.

W. T. ANDERSON & CO., 104 N. 3d Street

CLEVELAND.

HONEY—Since our last report there has been a little better demand for honey, and some sales have been made at 13½@14c for best white honey in 1-lb. sections. Second quality is still very dull at 12@13c. Extracted is not salable at any price in our market.

BEESWAX.—Scarce at 28@30.

A. C. KENDEL, 115 Ontario Street.

KANSAS CITY.

HONEY—Trade is picking up a little, induced by the extreme low prices at which it is selling. Still there is not the demand there should be. Stocks of all kinds now are full, and more sellers than buyers. Choice white comb 1-lb. sections, 13@14c; 2-lb. sections, 12@13c per lb.; extracted, 5@7c.

BEESWAX.—None in the market.

CLEMONS, CLOON & CO., cor. 4th & Walnut.

SAN FRANCISCO.

HONEY—We quote comb honey in 2 lb. sections 13@14c; extracted, 6½c.

GEO. W. MEADE & CO., 213 Market.

Local Convention Directory.

1885. *Time and place of Meeting.*

May 16.—Hancock County, at Findlay, O.
S. H. Bolton, Sec., Stanley, O.

May 19.—N. W. Ills., and S. W. Wis., at Davis, Ills.
Jonathan Stewart, Sec., Rock City, Ill.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

May 29.—Haldimand, Ont., at Nelles' Corners, Ont.
E. C. Campbell, Sec.

June 5.—Mahoning Valley, at Newton Falls, O.
E. W. Turner, Sec., Newton Falls, O.

June 10.—Willamette Valley, at La Fayette, Oreg.
E. J. Hadley, Sec.

Dec. 8—10.—Michigan State, at Detroit, Mich.
H. D. Cutting, Sec., Clinton, Mich.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Special Notices.

☞ Attention is called to the advertisement of "S. J. McKinney's Simplicity Parallelogram Plate" in another column. A simple method of registering the strength of the different colonies of bees in an apiary is a want long felt by every bee-keeper. Mr. McKinney's method meets this demand, it being so arranged that by simply driving a tack at certain points, the strength of the colony (whether weak, medium or strong), may be indicated, and the condition of the colony may be known at a glance.

☞ Catalogues of bees and queens are received from T. S. Hall, Kirby's Creek, Ala., and of honey sections and berry crates, from the Berlin Fruit Box Co., Berlin Heights, O.

☞ **Sample Copies** of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview by sending the names to this office.

☞ **Preserve your papers** for reference If you have not got a Binder we will mail you one for 75 cents, or you can have one FREE if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

☞ We want one number each of the BEE JOURNAL of August, 1866—February, 1867. Any one having them to spare will please send a Postal Card. We will pay 50 cents for one copy of each of the two numbers.

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

Convention Notices.

☞ The Bee-Keepers' Association of Central Illinois will meet at Bloomington, Ills., on July 15, 1885, at 10 a. m.
WM. B. LAWRENCE, Sec.

☞ The Hancock County, Ohio, Bee-Keepers' Association will meet at 9 a. m., in Findlay, Ohio, at Mr. Bradnor's, on the Lima road, on May 16, 1885. S. H. BOLTON, Sec.

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. HADLEY, Sec.

☞ The Mahoning Valley Bee-Keepers' Association, will hold its next meeting at Newton Falls, Ohio, on Thursday, June 5, 1885. E. W. TURNER, Sec.

Advertisements.